

Notice of Allowability

Application No.

10/073,495

Examiner

TSE CHEN

Applicant(s)

STEVENS, ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the communication filed on April 4, 2008.
2. ☒ The allowed claim(s) is/are 42-56.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: ____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date ____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date ____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date ____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date ____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input checked="" type="checkbox"/> Other <u>PTOL-413B</u> . |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Applicant Attorney Jonathan S. Miller on June 3, 2008.

The application has been amended as follows:

- Claim 42, replace with -- A method comprising: executing a core module; initializing a plurality of firmware modules by the core module, wherein initializing comprises: examining at least two firmware modules to determine a required order of dispatch of the at least two firmware modules; dispatching an earlier of the at least two firmware modules by the core module and then dispatching a later of the at least two firmware modules by the core module; after the initializing of the plurality of firmware modules, initializing a system memory; and invoking a function contained in a third firmware module by the earlier of the at least two firmware modules during a dispatch of the earlier of the at least two firmware modules or by the later of the at least two firmware modules during a dispatch of the later of the at least two firmware modules, each of the at least two firmware modules including an interface to call the function contained in the third firmware module, wherein each of the plurality of firmware modules

includes a daisy chain flag corresponding to an absent hardware component in an import table. --.

- Claim 43, replace with -- The method of claim 42, wherein the examining comprises checking a resource list of each of the at least two firmware modules. --.
- Claim 44, replace with -- The method of claim 42, wherein the initializing of the plurality of firmware modules further comprises: determining a requirements configuration of the plurality of firmware modules appropriate to run; and examining a platform to determine whether a hardware to be initialized by a firmware module is present in the platform. --.
- Claim 49, replace with -- The method of claim 48 wherein the invoking comprises: scanning a daisy chain of firmware modules to find a module that operates with a hardware component present in a platform; and invoking the function if the module is found. --.
- Claim 50, replace with -- A computer-readable storage medium containing instructions to cause a programmable processor to perform operations comprising: determining dependencies among a plurality of firmware modules by a separate core module based on information about services imported from an import table of each of the plurality of firmware modules and services exported from an export table of each of the plurality of firmware modules before dispatching the plurality of firmware modules by the separate core module, and the services imported from the import table of each of the plurality of firmware modules dispatched by the

separate core module are provided in another firmware module of the plurality of firmware modules dispatched by the separate core module; dispatching each of the plurality of firmware modules in an order that satisfies the dependencies; and initializing a volatile system memory after dispatching the plurality of firmware modules. --.

- Claim 51, replace with -- The computer-readable storage medium of claim 50, wherein information about services imported and exported by a firmware module comprises: an import table of the firmware module containing at least one service that may be called by the firmware module; or an export table of the firmware module containing at least one service provided by the firmware module. --.
- Claim 53, replace with -- The computer-readable storage medium of claim 50, wherein dispatching a firmware module comprises saving a return address in a processor register and executing a beginning instruction of the firmware module. -
-.
- Claim 54, replace with -- A system comprising: a hardware component to perform a function; a volatile memory that can store data after the volatile memory is initialized; and a non-volatile memory containing a Basic Input-Output System (“BIOS”) including a BIOS core and a plurality of firmware modules, wherein two of the plurality of firmware modules are to initialize hardware components to perform the function, and one of the two of the plurality of firmware modules is to initialize an absent hardware component that is not present in the system by iterating through each of the plurality of firmware modules within the BIOS to

determine whether the absent hardware component is present, each of the plurality of firmware modules including a daisy chain flag corresponding to the absent hardware component in an import table, and the two of the plurality of firmware modules are to be dispatched before the volatile memory is initialized. --.

2. The following is an examiner's statement of reasons for allowance: the claims are allowable because none of the prior art(s) cited, anticipate(s) or render(s) obvious a method of claim 42, with "... after the initializing of the plurality of firmware modules, initializing a system memory... invoking a function contained in a third firmware module by the earlier of the at least two firmware modules during a dispatch of the earlier of the at least two firmware modules or by the later of the at least two firmware modules during a dispatch of the later of the at least two firmware modules, each of the at least two firmware modules including an interface to call the function contained in the third firmware module, wherein each of the plurality of firmware modules includes a daisy chain flag corresponding to an absent hardware component in an import table" in conjunction -- i.e., viewed as a whole -- with the other limitations of the claim; a computer-readable storage medium of claim 50, with "... determining dependencies among a plurality of firmware modules by a separate core module based on information about services imported from an import table of each of the plurality of firmware modules and services exported from an export table of each of the plurality of firmware modules before dispatching the plurality of firmware modules by the separate core module, and the services imported from the import table of each of the plurality of firmware modules dispatched by the separate core module are provided in another firmware module of the plurality of firmware modules dispatched by the separate core module..." in conjunction -- i.e., viewed as a whole -- with the

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other limitations of the claim; a system of claim 54, with "...one of the two of the plurality of firmware modules is to initialize an absent hardware component that is not present in the system by iterating through each of the plurality of firmware modules within the BIOS to determine whether the absent hardware component is present, each of the plurality of firmware modules including a daisy chain flag corresponding to the absent hardware component in an import table..." in conjunction -- i.e., viewed as a whole -- with the other limitations of the claim.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TSE CHEN whose telephone number is (571)272-3672. The examiner can normally be reached on Monday - Friday 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on (571) 272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tse Chen/

Primary Examiner, Art Unit 2116

June 4, 2008